DESCRIPTIONS OF SOME NEW SPECIES OF AUSTRALIAN, TASMANIAN, AND NEW ZEALAND MOSSES. vi.*

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(*Communicated by the Rev. W. W. Watts.*)

190. Campylopus denticuspes Broth., n.sp.

Dioicus: gracilescens, cæspitosus, cæspitibus densiusculis, viridibus, inferne nigrescentibus, vix nitidiusculis; *caulis* erectus, ad 3 cm. usque longus, parce radiculosus, inferne laxius, superne densiuscule foliosus, simplex; *folia* horride patentia, canaliculato-concava, e basi oblonga lanceolato-subulata, obtusiuscula vel acutiuscula, marginibus superne subconniventibus, subintegris, nervo angusto, basi c. quintam partem folii latitudinis occupante, cum apice evanido, dorso summo apice spinoso-dentato, cellulis stereideis dorsalibus et ventralibus instructo, cellulis laminaribus anguste rhombeis, valde incrassatis, lumine angustissimo flexuosulo, marginalibus angustis, limbum angustissimum, hyalinum efformantibus, basilaribus internis laxioribus, haud incrassatis, alaribus numerosis, laxis, hyalinis. Cætera ignota.

New South Wales: Richmond River, Wardell, heath (Watts, n.5260).

Var. *lutescens* Broth., n.var.

Cæspites densi, lutescentes, nitidiusculi; *caulis* vix ultra 1 cm. longus; *folia* nervo tenuiore, superne raptim multo angustiora, apice vix conspicuo, cellulis alaribus paucioribus et paulum minoribus.

N.S.W.: Richmond River., E. Ballina, heath (Watts, n.4758), and swamp (Watts, n.1739).

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Species cum *C. Kirkii* Mitt., comparanda, sed foliis dorso summo apice spinoso-dentato jam dignoscenda.

191. Fissidens (*Heterocaulon*) bryoidioides Broth., n.sp.

Dioicus: gracilis, cæspitosus, cæspitibus laxis, lutescenti-viridibus, opacis; *planta sterilis* erecta, c. 1 cm. longa, gracillima, simplex, foliis inter se remotis, multijugis, subæqualibus, asymmetricis; *planta fertilis* adscendens, vix ultra 5 mm. longa, simplex, densius foliosa, foliis 5-10 jugis, infimis minutis, cæteris multo majoribus, erecto-patentibus; *folia* oblongo-lanceolata, plantæ fertilis c. 1·2 mm. longa et c. 0·28 mm. lata, lamina vera tantum plus minusve distincte limbata, nervo crassiusculo, breviter excedente, lamina vera lamina apicali longior, lamina dorsali breviter decurrente, cellulis rotundato-hexagonis, superioribus c. 0·007 mm., chlorophyllosis, lævissimis; *seta* c. 1 cm. alta, tenuissima, lutea; *theca* subhorizontalis, asymmetrica, ovalis, sicca deoperculata curvatula, sub ore constricta, pallida. Cætera ignota.

N.S.W.: Penshurst (Forsyth, n.676).

Species habitu *Bryoidii*, sed lamina vera tantum limbata.

192. Fissidens (*Bryoidium*) Forsythii Broth., n.sp.

Dioicus: gracilis, cæspitosus, cæspitibus densis, saturate viridibus, opacis; *caulis* adscendens, usque ad 1 cm. longus, infima basi fusco-radiculosus, dense foliosus, simplex vel innovando ramosus; *folia* multijuga, falcata, sicca circinato-incurva, infima minuta, cætera multo majora, ligulata vel ovato-ligulata, obtusa, apiculata, summo apice obsolete serrulata vel integra, limbata, limbo angustissimo, hyalino, subcontinuo, nervo ad basin apiculi evanido, lamina vera lamina apicali longior, lamina dorsalis longe decurrens, cellulis minutissimis, rotundato-hexagonis, superioribus vix ultra 0·005 mm., chlorophyllosis, lævissimis; *seta* c. 7 mm. alta, tenuis, lutescenti-rubra; *theca* horizontalis, asymmetrica, ovalis, sicca curvata, nutans, deoperculata sub ore valde constricta, pallida. Cætera ignota.

N.S.W.: Gullies near Barber's Creek (Forsyth, n.566).

Species *F. Dietrichiae* C. Müll., affinissima, sed foliis densius areolatis dignoscenda.

193. Fissidens (*Bryoidium*) perangustus Broth., n.sp.

Dioicus: gracillimus, cæspitosus, cæspitibus densis, lutescenti-viridibus, opacis; *caulis* procumbens, 1-1·5 cm. longus, infima basi fusco-radiculosus, laxiuscule foliosus, innovando-ramosus vel simplex; *folia* multijuga, erecto-patentia, stricta, linearia, acuta, c. 0·75 mm. longa et c. 0·15 mm. lata, integerrima, limbata, limbo luteo, 3-seriato, infra apicem folii evanido, nervo crassiusculo, infra apicem folii evanido, lamina vera lamina apicali parum longior, lamina dorsali paulum decurrente, cellulis subrotundato-hexagonis, superioribus 0·007-0·010 mm., chlorophyllosis, lævissimis; *seta* c. 3 mm. alta, tenuissima, lutea vel lutescenti-rubra; *theca* suberecta, minuta, subsymmetrica, ovalis, sicca deoperculata sub ore vix contracta; *operculum* ignotum; *calyptra* ignota.

Planta mascula ignota.

N.S.W.: Manly, near Sydney, the Eyrie (Watts, n.6790a, 6792).

Species statura alata sed gracillima foliisque anguste linearibus oculo nudo jam dignoscenda.

194. Fissidens (*Bryoidium*) rigidiusculus Broth., n.sp.

Dioicus: gracilescens, cæspitosus, cæspitibus densis, rigidiusculis, viridibus, inferne fuscescentibus, opacis; *caulis* adscendens, usque ad 2 cm. longus, infima basi fusco-radiculosus, densiuscule foliosus, simplex vel dichotome ramosus, ramis fastigiatis; *folia* multijuga, sicca homomalla, humida erecto-patentia, stricta vel homomallula, infima minuta, cætera multo majora, lanceolato ligulata, breviter acuminata, obtusiuscula vel acuta, usque ad 1·8 mm. longa et 0·38 mm. lata, integerrima vel summo apice obsolete serrulata, limbata, limbo luteo, biseriato, continuo, nervo rufescente, continuo vel subcontinuo, lamina vera lamina apicali longior, lamina dorsalis ad basin nervi enata ibidemque angustata, cellulis minutissimis, rotundato-hexagonis, superioribus vix ultra 0·005 mm., chlorophyllosis, lævissimis; *seta* vix 5 mm. alta,

tenuis, rubra; *theca* inclinata, minuta, paulum asymmetrica, ovalis, pallida; *operculum* e basi conica oblique rostratum; *operculum* ignotum.

N.S.W.: Moss Vale, Fitzroy Falls (Forsyth, n.669).

Species pulchra, rigiditate nec non foliis minutissime areolatis dignoscenda.

Var. *leptocladus* (C. Müll.) Broth., n.var.

Syn., *Fissidens leptocladus* C. Müll., in Herb. Weymouth. Gracilior, folia minora, nervo tenuiore.

Tasmania: Mt. Wellington, Guy Fawkes Rivulet, on wet rocks (Weymouth, n.385), on face of rocks (n.2157), and on damp bank (n.2281).

195. Fissidens (*Bryoidium*) præmollis Broth., n.sp.

Robustiusculus, cæspitosus, cæspitibus densis, mollibus, pallide viridibus, opacis; *caulis* erectus, usque ad 3 cm. longus, basi fusco-radiculosus, laxe foliosus, dichotome ramosus, ramis fastigiatis; *folia* multijuga, homomallula, flaccida, sicca contractula et flexuosula, late ovato-oblonga, obtusa, apiculata, 1·4-1·6 mm. longa, c. 0·57 mm. lata, summo apice minutissime serrulata, limbata, limbo biseriato, hyalino, infra summum apicem evanido, nervo pallide viridi, infra summum apicem folii evanido, lamina vera lamina apicali longior, lamina dorsalis ad basin nervi enata, basi angustata, cellulis rotundato-hexagonis, superioribus c. 0·010 mm., parce chlorophyllosis, lævissimis. Cætera ignota.

N.S.W.: Richmond River, Skinner's Head, cliff, cave (Watts, n.5371).

Species distinctissima, mollitie foliorumque forma faciliter dignoscenda.

196. Fissidens (*Bryoidium*) aristatus Broth., n.sp.

Dioicus: gracilis, cæspitosus, cæspitibus plerumque densiusculis, viridibus vel lutescenti-viridibus, opacis; *caulis* erectus, 5-10 mm. longus, infima basi fusco-radiculosus, densiuscule foliosus, simplex; *folia* usque ad 10 juga, infima minuta, superiora multo majora, lanceolato-ligulata, breviter acuminata, acuta, usque ad

1·9 mm. longa, integerrima, limbata, limbo viridi, triseriato, continuo, nervo lutescente vel rufescente, in aristam brevem excedente, lamina vera lamina apicali longior, lamina dorsalis ad basin nervi enata, basi angustata, cellulis rotundato-hexagonis, superioribus c. 0·010 mm., chlorophyllosis, lævissimis; *seta* 7-10 mm. alta, tenuis, lutescenti-rubra; *theca* inclinata, sicca sub-nutans, asymmetrica, ovalis, sicca deoperculata sub ore constricta, pallida; *operculum* e basi conica breviter rostratum. Calyptra ignota.

N.S.W.: Mossman's Bay, Falls, damp soil (Watts, n.4585); Brunswick River, on mud-covered log, by creek (Watts, n.5238); Neutral Bay near Sydney, damp waterway (Watts, n.8080); Manly, the Eyrie, Upper Terrace, damp places in gutter (Watts, n.6790).

Species *F. incurvo* Stark affinis.

197. Fissidens (*Bryoidium*) sordidevirens Broth., n.sp.

Autoicus: gracilis, cæspitosus, cæspitibus laxiusculis, sordide et saturate viridibus, opacis: *caulis* erectus, c. 5 mm. longus, infima basi fusco-radiculosus, inferne remote dein densiuscule foliosus, simplex; *folia* 7-10 juga, erecto-patentia, stricta, infima minuta, superiora multo majora, oblongo-lanceolata, breviter acuminata, acuta, usque ad 1·1 mm. longa, integerrima, limbata, limbo lutescente, biseriato, continuo vel subcontinuo, nervo lutescente, infra summum apicem folii evanido, lamina vera lamina apicali longior, lamina dorsalis ad basin nervi enata ibidemque angustata, cellulis rotundato-hexagonis, superioribus c. 0·007 mm., chlorophyllosis, lævissimis: *seta* 2 mm. vel paulum ultra alta, tenuis, inferne rubra, superne lutescens; *theca* inclinata, minuta, paulum asymmetrica, ovalis, pallida. Cætera ignota.

N.S.W.: Cambewarra (Forsyth, n.1140).

Species *F. bryoidi* Hedw., affinis, sed foliis breviter acuminatis, acutis, luteolimbatis, nervo infra apicem folii evanido nec non seta brevi et theca minuta dignoscenda.

198. Leucobryum Wattsii Broth., n.sp.

Dioicum: robustiusculum, cæspitosum, cæspitibus densis, rigidis, humilibus, glauco-viridibus, opacis; *caulis* procumbens,

dense ramosus, ramis erectis, 5 mm. vel paulum ultra, rarius usque ad 1 cm. longis, densissime foliosis, obtusis; *folia* erecto-patentia, sicca arcte imbricata, e basi ovali sensim breviter lanceolata, acuta, fusco-mucronata, c. 3·5 mm. longa et 0·85-0·95 mm. lata, marginibus superne conniventibus vel subconniventibus, integris, nervo dorso lævi, leucocystis medianis 3-4 stratosis, cellulis laminalibus basilaribus usque ad 12 seriatis, superne limbum sensim angustiorem efformantibus. Cætera ignota.

N.S.W.: Richmond River, Rous Falls, on rocks (Watts, n.4856); Brooklet, on retaining wall (n.4802); head of Teven (n.2891); East Ballina (n.2261); and head of Wilson's Creek (n.2097).

Species caule brevi foliisque siccis arcte imbricatis, dorso lævibus jam dignoscenda.

199. Leucobryum ballinense Broth., n.sp.

Dioicum: gracile, cæspitosum, cæspitibus densis, mollibus, humilibus, albescenti-viridibus, opacis; *caulis* erectus, vix ultra 5 mm. longus, basi fusco-radiculosus, ramosus vel simplex; *folia* erecto-patentia, sicca imbricata, e basi oblonga sensim lanceolato-subulata, mucronata, c. 2 mm. longa et c. 0·35 mm. lata, marginibus superne subconniventibus, integris, nervo dorso valde scabro, leucocystis bistratosis, cellulis laminalibus basilaribus pauciseriatis, limbum angustum, superne sensim angustiorem efformantibus. Cætera ignota.

N.S.W.: Richmond River, E. Ballina, heath, on sapling (Watts, n.2159, mixed with *L. brachyphyllum* Hamp., 4107).

Species *L. brachyphyllo* Hamp., affinis, sed foliorum forma jam dignoscenda.

200. Tortella Novæ Valesiæ Broth., n.sp.

Autoica: robustiuscula, cæspitosa, cæspitibus densiusculis, mollibus, sordide viridibus; *caulis* erectus, usque ad 1 cm. longus, inferne fusco-radiculosus, dense foliosus, dichotome ramosus; *folia* erecto-patentia, carinato-concava, sicca circinato-incurva, e basi oblonga linearia, obtusa, mutica seu mucronata, c. 3 mm. longa et superne usque ad 0·5 mm. lata, marginibus erectis, integris, nervo crassiusculo, superne angustiore, cum apice

evanido vel in mucronem brevissimum excedente, cellulis minutissimis, rotundato-quadratis, chlorophyllosis et dense verrucosis, basilaribus elongatis, angustis, teneris, hyalinis, limbo hyalino brevi tantum spatio ultra basin producto; *seta* c. 1 cm. alta, tenuis, lutescenti-rubra; *theca* erecta, parum asymmetrica, anguste subcylindracea, sæpe curvatula, ætate pallide fuscidula. Cætera ignota.

N.S.W.: Sydney, Greenwich (Watts, n.1797).

Species *T. Knightii* (Mitt.) Broth., affinis, sed foliorum forma dignoscenda.

201. TRICHOSTOMUM ARISTATULUM Broth., n.sp.

Dioicum: robustiusculum, cæspitosum, cæspitibus densiusculis, sordide lutescenti-viridibus; *caulis* erectus, usque ad 1 cm. longus, inferne fusco-radiculosus, dense foliosus, dichotome ramosus; *folia* erecto-patentia, carinato-concava, sicca circinato-incurva, e basi ovali linearia, breviter acuminata, aristata, c. 3 mm. longa, superne usque ad 0·4 mm. lata, marginibus erectis, integris, nervo crassiusculo, superne angustiore, in aristam lutescentem excedente, cellulis minutissimis, quadratis, chlorophyllosis, dense verrucosis, basilaribus oblongo-hexagonis, hyalinis. Cætera ignota.

N.S.W.: Richmond River, Ballina, Alstonville (Watts, n.1918).

Species *T. brachydontio* Bruch valde affinis, sed nervo longius excedente, cellulis basilaribus brevioribus dignoscenda.

202. BARBULA (*Helicopogon*) GLAUCULA Broth., n.sp.

Dioica: gracilis, cæspitosa, cæspitibus laxis, glaucescentibus, ætate fuscescentibus; *caulis* erectus, vix ultra 1 cm. longus, laxiuscule foliosus, parce radiculosus, simplex; *folia* patula vel subrecurva, carinato-concava, sicca crispatula, e basi semivaginante, vix latiore ligulata, obtusiuscula vel obtusa, mucronata, usque ad 2 mm. longa et 0·35 mm. lata, marginibus plus minusve alte anguste recurvis, integris, nervo crassiusculo, rufescente, in mucronem fuscidulum excurrente, dorso papilloso, cellulis minutis, subquadratis, dense verrucosis, obscuris, basilaribus breviter rectangularibus, teneris, pellucidis. Cætera ignota.

Victoria: Heyington Road, near Melbourne, in drain (Watts, n.158).—N.S.W.: Nowra, Falls, on ground (Watts, n.6266).

203. Pottia (*Eupottia*) subphyscomitrioides Broth., n.sp.

Autoica: tenella, cæspitosa, cæspitibus densiusculis vel laxis, sordide vel saturate viridibus; *caulis* erectus, vix ultra 5 mm. longus, basi fusco-radiculosus, dense foliosus, simplex; *folia* erecto-patentia, carinato-concava, inferiora minuta, superiora multo majora, spathulata, obtusiuscula vel late acuta, usque ad 1·9 mm. longa, superne usque ad 0·65 mm. lata, marginibus erectis, integris, nervo crassiusculo, plerumque in aristam brevem, strictam excedente, cellulis superioribus rotundato-hexagonis, 0·015-0·020 mm., marginem versus minoribus, quadratis, basilaribus laxe et breviter rectangularibus, omnibus lævissimis; *seta* c. 3 mm. alta, tenuis, rubra; *theca* erecta, obovata, brevicollis, fusca, deoperculata parum dilatata; *annulus* longe persistens; *peristomium* 0; *spori* 0·025-0·030 mm., ochracei, papillosi; *operculum* oblique rostratum.

Vic.: Melbourne, St. Kilda Road, on footpath in garden "Avonhurst" (Watts, n.153); Heyington, on ground (Watts, n.181, 216).—Tasmania: Port Esperance, on ground (Rodway).

Species *P. physcomitrioidi* C. Müll., ex Argentina, valde affinis.

204. Tortula (*Syntrichia*) evanescens Broth., n.sp.

Dioica: robustiuscula, cæspitosa, cæspitibus densiusculis, mollibus, glauco-viridibus, ætate fuscescentibus: *caulis* erectus, vix ultra 1 cm. longus, inferne fusco-radiculosus, densiuscule foliosus, simplex; *folia* flaccida, faciliter decidua, erecto-patentia, carinato-concava, spathulata, in acumen breve, lanceolatum contracta, superiora c. 4 mm. longa, superne usque ad 1·3 mm. lata, marginibus erectis, integris, nervo rufescente, sat longe infra apicem folii evanido, dorso lævi, cellulis laxis, rotundato-hexagonis, leptodermibus, lævissimis, chlorophyllosis, 0·030-0·040 mm., marginem versus minoribus, basin versus quadratis, dein breviter rectangularibus, hyalinis, ad marginem brevioribus. Cætera ignota.

N.S.W.: Green Gully, near Young, on ground (Watts, n.6914).

Species valde peculiaris, foliis flaccidis, faciliter deciduis, nervo sat longe infra apicem folii evanido cellulisque laxis facillime dignoscenda.

205. TAYLORIA (*Dissodon*) MAIDENII Broth., n.sp.

Autoica: gracilescens, cæspitosa, cæspitibus laxiusculis, pallide viridibus, ætate lutescenti-fuscescentibus, nitidiusculis; *caulis* erectus vel adscendens, vix ultra 1 cm. longus, basi fusco-tomentosus, dein nudus, superne laxe foliosus, simplex vel furcatus: *folia* difficiliter emollita, carinato-concaviuscula, e basi erecta, breviter spathulata patula vel subhorizontalia, inferiora breviter, comatia elongate oblonga, breviter acuminata, plerumque apiculata, usque ad 1-1·2 mm. lata, marginibus erectis, integris, nervo sat tenui, infra apicem folii evanido, cellulis laxis, superioribus ovali-hexagonis, dein sensim longioribus, basilaribus oblongo-hexagonis, marginalibus angustioribus, limbum indistinctum, uniseriatum efformantibus; *seta* 7-10 mm. alta, tenuis, strictiuscula, straminea, ætate fuscescenti-rubra, lævissima; *theca* erecta, cum hypophysi sporangio breviore ejusdemque latitudinis oblonga, c. 2 mm. longa, sicca haud mutata, castanea, cellulis sporangii incrassatis, irregularibus, oblongo- vel ovali-hexagonis, ad orificium in seriebus pluribus transversis, eisdem hypophysis rotundato-hexagonis, leptodermibus, stomatibus numerosis, subimmersis; *peristomium* 0; *spori* 0·025-0·030 mm., fusci, punctulati: *operculum* minutum, cupulatum; *calyptra* mitræformis, lutea, summo apice fuscidula, longirostris, in laciniis 5 brevibus divisa, lævissima.

N.S.W.: Mt. Kosciusko, Merritt's Camp (Maiden et Forsyth, n.184).

Species distinctissima, thecæ forma peristomioque deficiente facillime dignoscenda.

206. FUNARIA (*Entosthodon*) PERPUSILLA Broth., n.sp.

Pusilla, gregarie crescens, fuscescenti-viridis; *caulis* brevissimus, basi fusco-radiculosus, superne dense foliosus, simplex; *folia* erecto-patentia, sicca vix mutata, concaviuscula, e basi ovata lanceolato-subulata, usque ad 1·5 mm. longa et 0·5 mm. lata,

marginibus erectis, integris, elimbata, nervo rufescente, infra apicem folii evanido, cellulis laxis, oblongo-hexagonis, basilaribus rectangularibus; *seta* 3-4 mm., strictiuscula, lutescenti-rubra; *theca* erecta, minuta, cum collo sporangio æquilongo pyriformis, lutescenti-fuscidula, lævis: *annulus* 0; *peristomium* 0; *spori* 0·025-0·030 mm., ferruginei, papillosi; *operculum* convexum; *calyptra* vesiculoso-cucullata, integra.

Victoria: Railway Station, Heyington, on ground (Watts, n.196, 201, 202A, 205).

Species minutie omnium partium, foliis elimbatis, integris nec non peristomio nullo jam dignoscenda.

207. Funaria (*Entosthodon*) bullata Broth., n.sp.

Tenella, gregarie crescens, pallide viridis; *caulis* erectus, vix ultra 1 mm. longus, infima basi fusco-radiculosus, superne dense foliosus, simplex; *folia* erecta, sicca vix mutata, cochleariformi-concava, e basi breviter et late spathulata obovata, fusco-mucronata vel apiculata, c. 1·3 mm. longa et usque ad 1·1 mm. lata, marginibus erectis, integris, elimbata, nervo rufescente, longe infra apicem folii evanido, cellulis laxis, superioribus rotundato-hexagonis, marginem versus minoribus, basilaribus elongate rectangularibus; *seta* 5-7 mm., strictiuscula, lutescenti-rubra; *theca* erecta cum collo sporangio æquilongo turgide pyriformis, fuscidula, lævis; *annulus* 0; *peristomium* simplex, infra orificium oriundum; *exostomii dentes* erecti, lanceolati, rubri, longitudinaliter striati, papillosi; *spori* 0·030 mm., ferruginei, papillosi; *operculum* subplanum, rubromarginatum; *calyptra* vesiculoso-cucullata, integra.

Vic.: Railway Station, Heyington, on ground (Watts, n.198, 208).

Species *F. gracili* (Hook. fil. et Wils.) Broth., affinis, sed foliis cochleariformi-concavis oculo nudo jam dignoscenda.

208. Mielichhoferia (*Eumielichhoferia*) Forsythii Broth., n.sp.

Paroica: gracilis, cæspitosa, cæspitibus densis, fusco-tomentosis, læte viridibus, opacis; *caulis* erectus, vix ultra 1 cm. longus, filiformis, inferne remote, superne dense foliosus, innovando

ramosus; *folia* inferiora minuta, erecto-patentia, superiora multo majora, erectiora, carinato-concava, ovato-lanceolata, acuta, marginibus erectis vel inferne anguste recurvis, superne serrulatis, nervo infra apicem folii evanido, cellulis anguste linearibus, infimis laxioribus; *bracteæ perichætii* foliis multo minores, erectæ, cæterum eisdem similes; *seta* c. 1·5 cm. alta, tenuissima, flexuosula, lutescenti-rubra; *theca* erecta, regularis, oblonga, collo sporangium breviore, leptodermis, pallide fusca; *annulus* latus, revolubilis; *peristomium* simplex, internum: *membrana basilàris* exserta, hyalina, lævis; *processus* filiformes, c 0·010 mm. lati, appendiculati, sordide lutei, minutissime papillosi; *spori* 0·015-0·017 mm., læves; *operculum* ignotum.

N.S.W.: Tallewong Creek (Forsyth, n 641).

209. MIELICHHOFERIA (*Mielichhoferiopsis*) TURGENS Broth, n.sp.

Paroica: robustiuscula, cæspitosa, cæspitibus densis, fusco-tomentosis, pallide viridibus, nitidis; *caulis* erectus, usque ad 1·5 cm. longus, filiformis, accrescenti-foliosus itaque clavatus, innovando ramosus; *folia* inferiora inter se remotiuscula, erecto-patentia, superiora sensim majora, densiora et erectiora, imbricata, ovato-lanceolata, acuta, marginibus fere ad apicem late revolutis, apice serrulatis, nervo infra apicem folii evanido, cellulis linearibus, basilaribus laxioribus, oblongo-hexagonis, innovationum latioribus, brevius acuminatis, marginibus anguste revolutis; *b acteæ perichætii* foliis multo minores, erectæ, anguste acuminatæ, marginibus erectis, subintegris; *sporogonia* 1-3 ex eodem perichætio; *seta* c. 5 mm. alta, tenuis, sicca flexuosula, lutea; *theca* erecta vel inclinata, regularis, oblonga, collo sporangium subæquante, leptodermis, pallida; *annulus* latus, revolubilis; *peristomium* duplex; *exostomii dentes* lanceolati, c. 0·20 mm. longi et c. 0·05 mm. lati, dense lamellati, pallidi, dorso basi transverse dein oblique superne longitudinaliter striolati, angustissime limbati, sublæves vel papillosi; *endostomium* hyalinum, lævissimum, membrana basilaris altiuscula, processus dentium longitudinis, carinati, haud perforati, cilia brevissima, singula vel nulla; *spori* 0·015-0·017 mm., ochracei, minute papillosi; *operculum* minutum, conicum, acutum, rubellum.

N.S.W.: Koorawatha, on ground among rocks (Watts, n.7219, typus); The Gap near Young (Watts, n.7719, forma); Memagong near Young, under rocks (Watts, n.7902, forma); Mt. Coghlan, near Cootamundra (Watts, n.7867, 7890, forma).

Species pulchra, peristomii structura ab omnibus congeneribus diversa.

210. Plagiobryum Novæ Seelandiæ Broth., n.sp.

Dioicum: tenellum, gregarie crescens, rubescenti-argenteum, nitidiusculum; *caulis* brevissimus, basi radiculis numerosis, longis, fuscis instructus, dense foliosus, innovationibus pluribus, brevibus, julaceis; *folia* caulina erecto-patentia, ovato- vel oblongo-lanceolata, plerumque obtusa, marginibus erectis, integris, elimbata, nervo tenui, rubro, infra apicem folii evanido, cellulis laxis, teneris, hexagono-rhomboideis, basilaribus oblongo-hexagonis vel rectangularibus, innovationum imbricata, cochleariformi-concava, late ovata, obtusissima vel subrotunda, marginibus erectis, integris, cellulis laxioribus; *seta* 1 cm. vel paulum ultra, e basi geniculata erecta, pallide rubra; *theca* nutans, cum collo sporangio longiore clavato-pyriformis, asymmetrica, microstoma, cum collo c. 6 mm. longa et c. 1·75 mm. crassa, lutescens, ore aurantiaco; *annulus* 0·075 mm. latus; *peristomium* duplex, paulum infra orificium oriundum; *exostomii dentes* lanceolati, c. 0·28 mm. longi et c. 0·075 mm. lati, ad medium aurantiaci, dein hyalini, læves; *endostomium* aurantiacum, læve, processus dentibus longiores, lanceolato-subulati, angustissime rimosi, cilia 0; *spori* 0·030-0·045 mm., fusci, papillosi, *operculum minutum*, aurantiacum, conicum, obtusum.

New Zealand: Broken River.

Species *Pl. Zierii* (Dicks.) Lindb., valde affinis, sed foliorum forma dignoscenda.

211. Bryum (*Pseudotriquetra*) subventricosum Broth., n.sp.

Dioicum: robustiusculum, cæspitosum, cæspitibus densis, rigidis, fusco-tomentosis, lutescenti-viridibus, opacis; *caulis* erectus, cum innovationibus usque ad 5 cm. longus, dense foliosus, innovationibus erectis, elongatis, æqualiter foliosis; *folia* erecto-patentia, sicca adpressa, carinato-concava, caulina ovato-

vel oblongo-lanceolata, late acuta, mucronata, marginibus usque ad apicem late revolutis, integris, nervo crasso, fuscescente, in mucronem brevissimum excedente, cellulis ovali-hexagonis, basilaribus breviter rectangularibus, infimis rubris, marginalibus angustis, limbum pluriseriatum, luteum efformantibus, innovationum eisdem caulinis similia, sed minora, plerumque obtusiuscula; *seta* usque ad 3·5 cm alta, fusca; *theca* nutans vel subpendula, obovata, collo sporangio subæquante, sicca deoperculata sub ore haud constricta, pachydermis, fusco-lutescens; *annulus* 0·15 mm. latus; peristomium duplex, paulum infra orificium oriundum; *exostomii dentes* lanceolato-subulati, c. 0 66 mm. longi et c 0·10 mm. lati, fusco-lutei, minutissime papillosi, apice hyalini et distinctius papillosi, dense lamellati; *endostomium* flavescens, sublæve, membrana basilaris ad medium dentium producta, processus late fenestrati, cilia terna, bene evoluta, appendiculata; *spori* immaturi; *operculum* convexum, acute apiculatum, nitidiusculum.

N.S.W.: distr. Tumbarumba (Forsyth, n.725).

212. Bryum (*Pseudotriquetra*) austro-affine Broth., n.sp.

Synoicum: robustiusculum, cæspitosum, cæspitibus densis, fusco-tomentosis, fuscescenti-viridibus, opacis; *caulis* erectus, cum innovationibus usque ad 4 cm. longus, dense foliosus, innovationibus erectis, usque ad 1 cm. longis, dense et æqualiter foliosis; *folia* erecto-patentia, sicca adpressa, carinato-concava, caulina oblongo-lanceolata, breviter acuminata, longe aristata, marginibus recurvis, integris, nervo basi crassiusculo, rubro, dein sensim tenuiore, in aristam longam, plerumque reflexulam, rufescentem, integram vel minutissime serrulatam excedente, cellulis oblongo-hexagonis, basilaribus majoribus, infimis rubris, marginalibus elongatis, augustis, limbum lutescentem, pluriseriatum efformantibus, innovationum eisdem caulinis similia, sed minora, marginibus angustius recurvis, nervo brevius excedente; *seta* usque ad 4 cm., flexuosula, fusco-rubra; *theca* nutans, e collo sporangio breviore oblongo-ovalis, cum collo usque ad 4 mm. longa et 1·5 mm. crassa, sicca deoperculata sub ore plus minusve contracta, pachydermis, fusca; *annulus* 0·015 mm. latus; *peri-*

stomium duplex, paulum infra orificium oriundum; *exostomii dentes* lineari-lanceolati, subulato-acuminati, c. 0·5 mm. longi et c. 0·085 mm. lati, sordide lutei, minutissime papillosi, apice hyalini, distinctius papillosi, dense lamellati; *endostomium* sordide luteum, minute papillosum, membrana basilaris ad medium dentium producta, processus late fenestrati, cilia terna, bene evoluta, longe appendiculata; *spori* 0·015-0·017 mm., lutescenti-virides, læves; *operculum* convexum, acute apiculatum, nitidiusculum.

N.S.W.: Yarrangobilly Caves (Forsyth, n. 1012, 1014); Kiandra (Forsyth, n.1010, 1011).

213. Bryum (*Cæspitibryum*) laxirete Broth., n.sp.

Dioicum: robustiusculum, cæspitosum, cæspitibus densis, pallide vel lutescenti-viridibus, nitidiusculis; *caulis* erectus, cum innovationibus vix ultra 1 cm. longus, fusco-tomentosus, dense foliosus, innovationibus brevibus vel longioribus, erectis, superne dense foliosis; *folia* erecto-patentia, carinato-concava, sicca imbricata, caulina late oblongo-lanceolata, longe aristata, marginibus revolutis, integris, limbata, nervo crassiusculo, superne multo tenuiore, in aristam elongatam, tenuem, lævem excedente, cellulis laxis, teneris, ovali- vel oblongo-hexagonis, marginalibus angustis, limbum pluriseriatum, lutescentem efformantibus, basilaribus majoribus, infimis rubris, innovationum eisdem caulinis similia; *seta* 2-3·5 mm. alta, strictiuscula, fuscescenti-rubra; *theca* pendula, e collo sporangio breviore oblonga, cum collo c. 4 mm. longa et c. 1·5 mm. crassa, sicca deoperculata sub ore parum constricta, pachydermis, pallide fusca; *annulus* 0·10 mm. latus; *peristomium* duplex, infra orificium oriundum; *exostomii dentes* lineari-lanceolati, subulato-acuminati, c. 0·55 mm. longi et c. 0·12 mm. lati, lutei, minute papillosi, apice hyalini, distinctius papillosi, anguste limbati, densissime lamellati, fundo rubro; *endostomium* sordide flavescens, papillosum, membrana basilaris ad medium dentium producta, processus dentibus breviores, lanceolati, late fenestrati, cilia terna, bene evoluta, longe appendiculata; *spori* 0·010 mm., lutei, læves; *operculum* hemisphæricum; acute apiculatum, nitidiusculum.

N.S.W.: Emu Plains (Forsyth, n.1019). Warrumbungle Ranges (Forsyth, n.1022); Jenolan Caves (Blakely, n.970); Hill Top (Maiden, n.406); gullies near Barber's Creek (Forsyth, n.409).

Species *Br. cæspiticio* L., affinis, sed foliis laxius areolatis jam dignoscenda.

214. Bryum (*Argyrobryum*) calodictyon Broth., n.sp.

Dioicum: tenellum, cæspitosum, cæspitibus parvis, densis, lutescentibus, nitidis; *caulis* erectus, vix ultra 5 mm. longus, inferne dense fusco-radiculosus, dense et julaceo-foliosus, innovationibus brevissimis, erectis; *folia* imbricata, concava, ovata, breviter acuminata, acuta, marginibus erectis, integris, nervo sat tenui, infra summum apicem folii evanido, cellulis anguste linearibus, basilaribus laxioribus, alaribus numerosis, rectangularibus vel subquadratis. Cætera ignota.

N.S.W.: Green Gully, near Young (Watts, n.7206), and damp bank, back of Cemetery, Young (n.7244).

Species ex affinitate *Br. chrysei* Mitt., sed foliis breviter acuminatis, nervo ante apicem folii evanido, cellulis angustioribus longe diversa.

215. Bryum (*Erythrocarpa*) luteolimbatum Broth., n.sp.

Dioicum: tenellum, cæspitosum, cæspitibus densis, lutescenti-viridibus, nitidis; *caulis* vix ultra 5 mm. longus, basi fusco-radiculosus, dense foliosus, innovationibus paucis, erectis, brevibus; *folia* sicca imbricata, humida erecto-patentia, carinato-concava, marginibus erectis vel recurvis, apice minutissime serrulatis, limbata, nervo tenuiusculo, subcontinuo, cellulis oblongo-hexagonis, teneris, basin versus sensim longioribus, basilaribus rectangularibus, marginalibus elongatis, angustis, limbum luteum, triseriatum efformantibus; *seta* vix ultra 15 mm. alta, tenuis, rubra; *theca* nutans, cum collo sporangio subæquante clavato-pyriformis, c. 2 mm. longa, leptodermis, fuscidula; *annulus* latus, revolubilis; *peristomium* duplex, infra orificum oriundum; *exostomii dentes* lineari-lanceolati, subulato-acuminati, lutei, apice hyalini, papillosi, limbati, dense lamellati; *endostomium* sordide flavidulum, papillosum, membrana basilaris ad medium dentium

producta, processus anguste lanceolati, anguste perforati, cilia ?; *spori* 0·015-0·018 mm., fusciduli, læves; *operculum* alte convexum, muticum.

New Zealand : Auckland (Petrie, in Herb. Naylor Beckett).

Species *Br. chrysoneuroni* C Müll., habitu similis, sed folii structura jam longe diversa.

216. BRYUM (*Apalodictyon*) FILARIUM Broth., n.sp.

Dioicum: gracillimum, cæspitosum, cæspitibus compactis, superne læte viridibus, ætate fuscescentibus, inferne fusco-rubris; *caulis* fragilis, erectus, usque ad 2·5 cm. longus, fusco-tomentosus, dense foliosus, simplex vel innovando ramosus; *folia* erecto-patentia, sicca arcte adpressa, carinato-concava, oblongo-lanceolata, breviter acuminata, acuta, usque ad 1 mm. longa et 0·38 mm. lata, marginibus erectis vel angustissime recurvis, integerrimis, nervo crasso, rufescente, continuo vel brevissime excedente, cellulis ovali- vel oblongo-hexagonis, teneribus, alaribus abbreviatis, marginalibus angustioribus, limbum indistinctum, uniseriatum efformantibus. Cætera ignota.

N.S.W. : Richmond River, Skinner's Head, sea-cliff (Watts, n.4127).

Species *Br. pachypomatulo* Broth , affinis, sed caule dense folioso, foliis brevioribus, nervo crasso dignoscenda.

217. BRYUM (*Alpiniformia*) SUBCURVICOLLUM Broth., n.sp.

Dioicum: robustiusculum, cæspitosum, cæspitibus compactis, rigidis, fuscescenti-viridibus, vix nitidiusculis; *caulis* erectus, cum innovationibus usque ad 2 cm. longus, fusco-tomentosus, dense foliosus, innovationibus erectis, vix ultra 5 mm. longis, strictis; *folia* erecto-patentia, sicca imbricata, carinato-concava, caulina anguste oblongo-lanceolata, breviter acuminata, aristata, marginibus anguste revolutis, integris, limbata, nervo crassiusculo, fuscescente, in aristam brevem, rigidam, lævem producto, cellulis rhomboideo-hexagonis, marginalibus elongatis, angustis, limbum angustissimum, lutescentem efformantibus, basilaribus laxioribus, oblongo-hexagonis, innovationum eisdem caulinis similia, integra vel apice indistincte serrulata; *seta* usque ad

3 cm. alta, tenuis, sicca flexuosula, inferne rubra, superne lutescenti-rubra; *theca* nutans, paulum asymmetrica, collo sporangio oblongo-ovali subæquante, cum collo c. 4·5 mm. longa et c. 1·2 mm. crassa, pallide fusca, pachydermis, sicca deoperculata sub ore haud constricta; *annulus* c. 0·12 mm. latus; *peristomium* infra orificium oriundum; *exostomii dentes* lineari-lanceolati, subulato-acuminati, c. 0·55 mm. longi et c. 0·10 mm. lati, lutei, apice hyalini, inferne minutissime, apice distinctius papillosi, estriolati, dense lamellati; *endostomium* sordide flavidum, minute papillosum; membrana basilaris ad medium dentium producta; processus dentium longitudinis, late lanceolati, carinati, fenestrati; cilia terna, bene evoluta, nodulosa, parce appendiculata; *spori* 0·015-0·018 mm., lutei, læves; *operculum* convexum, acute apiculatum.

N.S.W. : Apsley Falls (Forsyth, n.749).

Species *Br. curvicollo* Mitt., affinis, sed statura multo robustiore foliisque nervo tenuiore jam dignoscenda.

218. BRYUM (*Alpiniformia*) CHEELII Broth , n.sp.

Dioicum : robustiusculum, cæspitosum, cæspitibus densis, inferne pallidis, dein viridibus, apice purpureis, nitidiusculis; *caulis* paulum ultra 1 cm. longus, inferne fusco-radiculosus, dense et æqualiter foliosus, simplex; *folia* sicca imbricata, humida erecto-patentia, carinato-concava, oblongo-lanceolata, acuta, mucronata, marginibus recurvis, apice minutissime serrulatis, nervo crasso, superne sensim angustiore, brevissime excedente, cellulis laxe hexagono-rhombeis, marginibus multo angustioribus, basilaribus breviter rectangularibus; *seta* c. 2 cm. alta, fuscescenti-rubra; *theca* pendula cum collo sporangio æquante pyriformis, c. 4 mm. longa, pachydermis, fusca; *annulus* latus, revolubilis; *peristomium* duplex, ad orificium oriundum; *exostomii dentes* lineari-lanceolati, subulato-acuminati, lutei, apice hyalini, papillosi, anguste limbati, dense lamellati; *endostomium* flavescens, papillosum, membrana basilaris ultra medium dentium producta, processus lanceolati, fenestrati, cilia terna, bene evoluta, longe appendiculata; *spori* 0·012 mm., lutescenti-virides, sublæves; *operculum* alte convexum, mammillatum, nitidum.

N.S.W. : Shellharbour (Cheel, n.407).

Species *Br. alpino* Huds., habitu simillima, sed foliis nervo crassiore, cellulis laxioribus jam dignoscenda.

219. Bryum (*Alpiniformia*) Kiamæ Broth., n.sp.

Dioicum: gracilescens, cæspitosum, cæspitibus densiusculis, viridibus, opacis; *caulis* vix ultra 3 mm. longus, basi radiculosus, dense foliosus, innovationibus paucis, brevibus vel simplex; *folia* subæqualia, sicca imbricata, humida erecto-patentia, carinato-concava, oblonga, acutiuscula, marginibus erectis, superne minutissime serrulatis, nervo crassiusculo, continuo vel subcontinuo, cellulis laxe rhomboideo-hexagonis, marginem versus angustioribus, basilaribus rectangularibus; *seta* vix ultra 1 cm. alta, tenuis, rubra; *theca* pendula, cum collo sporangio æquante pyriformis, c. 3 mm. longa, pachydermis, fusca; *annulus* latus, revolubilis; *peristomium* duplex, paulum infra orificium oriundum; *exostomii dentes* lineari-lanceolati, subulato-acuminati, lutei, apice hyalini, papillosi, dense lamellati; *endostomium* sordide luteum, papillosum membrana basilaris vix ultra medium dentium producta, processus lanceolati, anguste perforati, cilia ?; *spori* 0·018-0·020 mm., virides, sublæves; *operculum* alte convexum, muticum.

N.S.W.: Kiama (Forsyth, n.381).

Species *Br. Sullivani* C. Müll., valde affinis, sed thecæ forma dignoscenda.

220. Bryum (*Rosulata*) Forsythii Broth., n.sp.

Dioicum: robustiusculum, cæspitosum, cæspitibus densis, sordide viridibus, opacis; *caulis* usque ad 2 cm. longus, fusco-radiculosus, dense et comoso-foliosus; *folia* comatia sicca erecta humida patentia, carinato-concava, e basi breviter spathulata, breviter oblonga vel ovalia, obtusiuscula, brevissime aristata, c. 3 mm. longa et usque ad 1·3 mm. lata, marginibus fere ad apicem revolutis, superne minute et æqualiter serratis, limbata, nervo crassiusculo, brevissime excedente, cellulis ovali- vel rhombeo-hexagonis, marginalibus angustioribus et longioribus, limbum pauciseriatum, infra apicem folii desinentem efformantibus; *seta* c. 2 cm. alta, rubra; *theca* nutans, minuta, cum collo sporangio longiore obconica, fuscidula; *operculum* alte convexum, mammillatum.

N.S.W.: Kiama (Forsyth, n.384).

Species *Br. leptothecio* Tayl., affinis, sed folii forma, limbo angusto, infra apicem folii evanido dignoscenda.

221. Papillaria (*Eupapillaria*) nitidiuscula Broth., n.sp.

Dioica: mollis, gracilescens, læte viridis, nitidiuscula; *caulis* elongatus, per totam longitudinem cortici arborum affixus, laxiuscule foliosus, dense et regulariter ramosus, ramis haud complanatis, plerumque brevibus, dense foliosis, curvatulis, simplicibus, attenuatis, rarius elongatis, pendulis, multo tenuioribus, pinnatim ramulosis: *folia caulina* patentia, e basi breviter decurrente late cordata, lanceolato-subulata, piliformiter attenuata, alis inflexis, marginibus erectis, minutissime crenulatis, nervo tenui, ad medium folii evanido, cellulis elongatis, anguste lineari-rhomboideis, minutissime papillosis, basilaribus laxioribus, alaribus subquadratis, hyalinis, lævibus; *folia ramea* angustiora, lanceolato-acuminata. Cætera ignota.

N.S.W.: Richmond River, Alstonville Road (Watts, n.4032, 4043, 4062), E. Ballina (Watts, n.207, 3401, 4003, 4110, 4351), Tintenbar (Watts, n.4363), Pimlico (Watts, n.4882), Uralba Road (Watts, n.3711, 3715), Pearce's Creek (Watts, n.441), Brooklet (Watts, n.4793), Teven Creek (Watts, n.4093, 4396, 4418), North Creek (Watts, n.4755); Brunswick River, Myocum (Watts, n.4337).

Species a congeneribus australiensibus foliis nitidiusculis, mollibus jam dignoscenda.

222. Anacamptodon Wattsii Broth., n.sp.

Autoicus: gracilis, cæspitosus, cæspitibus densiusculis, læte viridibus; *caulis* elongatus, repens, laxiuscule foliosus, dense ramosus, ramis brevibus, adscendentibus, simplicibus; *folia* patula, concava, e basi ovata vel ovali sensim longe lanceolato-subulata, marginibus erectis, integris, nervo crassiusculo, continuo, cellulis rhomboideo-hexagonis, basin versus laxioribus, alaribus numerosis quadratis; bracteæ perichætii internæ erectæ, sensim lanceolato-acuminatæ, integræ; *seta* c. 1 cm. alta, strictiuscula, lutea, inferne rubra, ætate omnino rubra, lævissima;

theca erecta, ovalis, crassicollis, pachydermis, pallida, ætate rubra; *peristomium* duplex, infra orificium oriundum; *exostomii dentes* incurvi, siccitate reflexi, late lanceolati, c. 0·37 mm. longi et c. 0·085 mm. lati, fusciduli, papillosi; *processus* filiformes, medium dentium attingentes, fusci, læves; *spori* 0·008-0·010 mm., ochracei, læves; *operculum* e basi conica breviter et oblique rostratum.

N.S.W.: Richmond River, Cooper's Creek (or Wilson's Creek), on burnt wood (Watts, n.5189).

Species foliis longe subulatis, nervo continuo dignoscenda.

223. Amblystegium austro-hygrophilum Broth., n.sp.

Autoicum: gracile, cæspitosum, cæspitibus densiusculis, pallide viridibus; *caulis* elongatus, repens, hic illic fusco-radiculosus, laxe foliosus, irregulariter et remote subpinnatim ramosus, ramis patulis, usque ad 1·5 cm. longis, laxe foliosis, simplicibus; *folia* squarroso-patula, concaviuscula, e basi longe decurrente, ovata sensim longe lanceolato-subulata, marginibus erectis, subula excepta minutissime denticulatis, nervo tenui, in subula evanido, cellulis elongate hexagonis, basin versus brevioribus, alaribus numerosis, laxis, oblongis; *bracteæ perichætii* internæ erectæ, e basi pallida, lata lanceolato-subulatæ, marginibus subulæ minute serrulatæ; *seta* 2-3 cm., tenuis, flexuosula, rubra, superne lutescens; *theca* horizontalis, cylindracea, sicca curvata et sub ore contracta, fusco-lutea; *operculum* ignotum.

N.S.W : Mt. Duval, near Armidale, wet places among grass in gully (Watts, n.7386).

224. Plagiothecium Novæ Seelandiæ Broth., n.sp.

Dioicum: robustum, cæspitosum, cæspitibus densis, mollibus, turgescentibus, viridissimis, nitidis; *caulis* elongatus, procumbens, parce radiculosus, dense foliosus, subpinnatim ramosus, ramis patentibus, plus minusve complanatis, brevioribus, obtusis vel longioribus, arcuatis, sæpe plus minusve attenuatis, simplicibus; *folia* concava, longe decurrentia, late ovalia, obtusa, integra, lateralia asymmetrica, nervo furcato, brevi vel usque ad medium folii producto, cellulis elongate sed laxe rhomboideis, alaribus

brevioribus et laxioribus; *bracteæ perichætii* late vaginantes, breviter acuminatæ, integræ; *seta* c 2·5 cm. alta, flexuosa, rubra; *theca* erecta vel suberecta, e collo brevi oblongo-cylindrica, pallide fusca, lævis; *operculum* conicum, acutum.

New Zealand: Kelly's Range, Kelly's Creek, on dripping rocks, and at top of Otira Gorge, 2830 ft., damp rocks in scrub (T. W. Naylor Beckett).

Species inflorescentia dioica, statura robusta foliorumque forma faciliter dignoscenda.

225 Plagiothecium Novæ Valesiæ Broth., n.sp.

Autoicum: robustiusculum, cæspitosum, cæspitibus densis, turgescentibus, lutescenti-viridibus, nitidis; *caulis* elongatus, repens, per totam longitudinem plus minusve fusco-radiculosus, densiuscule foliosus, subpinnatim ramosus, ramis patulis, vix ultra 1 cm. longis, complanatulis, simplicibus, obtusis; *folia* concava, vix decurrentia, dorsalia et ventralia symmetrica, ovato-lanceolata, lateralia asymmetrica, ovata, breviter sed anguste acuminatis, marginibus erectis, apice minutissime serrulatis vel subintegris, nervis binis, brevissimis, cellulis laxe elongate rhomboideis, alaribus brevioribus et laxioribus; *bracteæ perichætii* vaginantes, subulato-acuminatæ, integræ; *seta* 1·5 cm. alta, pallide rubra. Cætera ignota.

N.S.W.: Richmond River, Skinner's Creek, on rock (Watts, n.5619) and log in Byron Creek (Watts, n 5839).

Species *Pl. lamprostachydi* (Hamp.) Jæg., affinis, sed foliis vix decurrentibus, lateralibus anguste acuminatis, apice minutissime serrulatis, laxius areolatis optime diversa.

226. Vesicularia rivalis Broth., n.sp.

Autoica: gracilis, cæspitosa, cæspitibus laxiusculis, depressis, saturate viridibus, opacis; *caulis* elongatus, repens, per totam longitudinem fasciculatim fusco-radiculosus, laxiuscule foliosus, pinnatim ramosus, ramis patulis, complanatis, vix ultra 1 cm. longis, cum foliis c. 2 mm. latis, simplicibus, obtusis; *folia* ramea lateralia patula, concava, plus minusve asymmetrica, ovalia, raptim plus minusve longe cuspidata, marginibus erectis, inte-

gerrimis, enervia, cellulis laxe ovali- vel oblongo-hexagonis (superioribus 3:1 vel 4:1), basin versus longioribus, ventralia et dorsalia multo minora, symmetrica, ovato-lanceolata; *seta* 1·5 cm., pallide rubra; *theca* nutans, ovalis, c. 1 mm. longa, sicca deoperculata sub ore constricta, fusca; *operculum* e basi convexa acute apiculatum.

N.S.W.: Richmond River, rock in Whian Creek (Watts, n.5666).

Species *V. pinnatulæ* (C. Müll.) valde affinis, sed foliis latioribus, cellulis laxioribus, firmioribus dignoscenda.